

REMARKS

Claims 1-23 are pending in this application. Claims 20-23 have been withdrawn from consideration. Claims 1-4 and 7-20 are rejected. Claims 5 and 6 are objected to. In light of the above Amendments and the following remarks, Applicants respectfully request reconsideration and allowance of the claims now pending in this application.

Claims 1-4 and 7-9 are rejected under 35 U.S.C. 102 (b) as being anticipated by Angevine et al. Applicants respectfully traverse these rejections. Independent claim 1, and claims dependent there from, all have the requirement "such that when the water washed molecular sieves are subjected to a Sieve Wash Conductivity Test, a wash filtrate is produced having a conductivity of less than 110 micro mhos/cm." Angevine et al. fails to teach this requirement.

Angevine et al, U.S. Pat. No. 4,683,214, teaches removal of Na to increase catalytic activity. The Na is removed primarily by NH_4^+ exchange using a water solution. Obviously, this washing is for a purpose unrelated to gas diffusion in a membrane. In the present application, Applicants are using super washing, not just to remove Na, but to remove trace amounts of residual SiO_2 "remnants" from the surface and the pore openings. Note that Comparative Examples B and E of the present application clearly show that ion-exchange and conventional water washing are insufficient to get high performance in a membrane.

The Examiner asserts that getting 0.05% Na is inherently indicative of super water washing. This is not the case. Since the zeolite of Example 1 of Angevine et al. pertains to a zeolite catalyst having silica to alumina ratio of nominally about 40, $\text{SiO}_2/\text{Al}_2\text{O}_3$, it should have about 1 wt% Na as made, assuming 1 Na per Al. Using NH_4^+ exchange, it should be possible to get this down well below 0.05% in only two exchanges with a 10-fold excess of solution. Note in Comparative Example E of the present application there is used three exchanges with a 10-fold excess of solution, and still this did not achieve the performance found with super water washed zeolite.

Claims 11-15 are rejected under 35 U.S.C. 102(e) as anticipated by, or in the alternative, under 35 U.S.C. 103(a), as obvious over Kulkarni et al, U.S. Pat. No. 6,508,865. Applicants respectfully traverse this rejection as well as Kulkarni et al. fails to overcome the deficiencies of

Angevine et al. in teaching the invention as defined in the claims. Kulkarni et al fails to meet the requirement of having water washed silica containing molecular sieves "such that if the water washed silica containing molecular sieves are subjected to a Sieve Wash Conductivity Test, a wash filtrate is produced having a conductivity of less than 110 micro mhos/cm."

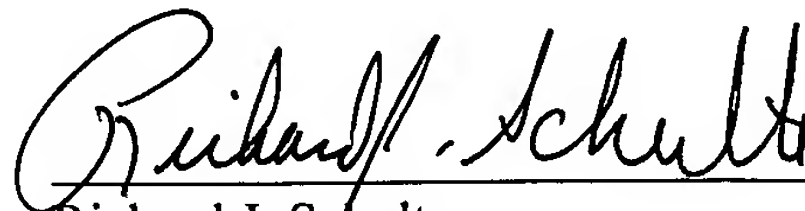
Kulkarni et al. teaches using SSZ-13 in the H-form. It does not teach 1) super water washing; 2) the motivation for performing such super water washing; or 3) the benefits of super water washing. Since all of the zeolites of the Examples and Comparative Examples of the present application are in the H-form, Kulkarni et al. gives no insight into separating the poorer performance of the Comparative Examples from the good performance with the super water washed zeolites taught in the present patent application. Accordingly, Kulkarni fails to overcome the deficiencies of Angevine et al. in teaching the invention recited in the claims.

Applicants believe independent claim 16, and claims dependent therefrom, are allowable for the reasons provided above with respect to independent claims 1 and 11.

REQUEST FOR ALLOWANCE

In light of the above amendments and remarks, Applicants respectfully request reconsideration and allowance of this application. If the Examiner has recommendations which may result in the allowance of the present application, the Examiner is respectfully requested to phone the undersigned.

Respectfully submitted,



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